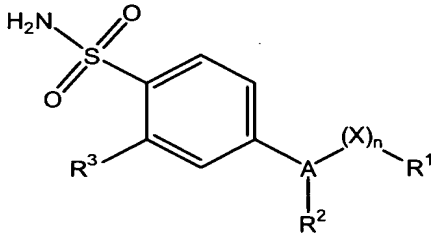
WHAT IS CLAIMED IS:

1. A pharmaceutical composition for application to an area of skin of a subject for local and/or systemic treatment of a COX-2 mediated disorder, the composition comprising a backing sheet that is flexibly conformable to the area of skin, the backing sheet having opposing surfaces that are respectively distal and proximal to the skin when applied; and a coating on the proximal surface of the backing sheet, said coating comprising (a) an adhesive, (b) an active agent comprising a selective COX-2 inhibitory sulfonamide drug of low water solubility, and (c) a solvent system for the active agent, wherein the active agent is in a therapeutically effective total amount and the solvent system is selected with regard to composition and amount thereof to be effective to maintain the active agent substantially completely in solubilized form.

2. The composition of Claim 1 wherein the selective COX-2 inhibitory sulfonamide drug is a compound having the structural formula



wherein:

A is a substituent selected from partially unsaturated or unsaturated heterocyclic and partially unsaturated or unsaturated carbocyclic rings;

X is O, S or CH_2;

n is 0 or 1;

R^1 is at least one substituent selected from heterocyclyl, cycloalkyl, cycloalkenyl and aryl groups, and is optionally substituted at a substitutable position with one or more radicals selected from alkyl, haloalkyl, cyano, carboxyl, alkoxycarbonyl, hydroxyl, hydroxyalkyl, haloalkoxy, amino, alkylamino, arylamino, nitro, alkoxyalkyl, alkylsulfinyl, halo, alkoxy and alkylthio groups;

R^2 is one or more radicals selected from hydrido, halo, alkyl, alkenyl, alkynyl, oxo, cyano, carboxyl, cyanoalkyl, heterocyclyloxy, alkyloxy, alkylthio,

alkylcarbonyl, cycloalkyl, aryl, haloalkyl, heterocyclyl, cycloalkenyl, aralkyl, heterocyclylalkyl, acyl, alkylthioalkyl, hydroxyalkyl, alkoxycarbonyl, arylcarbonyl, aralkylcarbonyl, aralkenyl, alkoxyalkyl, arylthioalkyl, aryloxyalkyl, aralkylthioalkyl, aralkoxyalkyl, alkoxyaralkoxyalkyl, alkoxycarbonylalkyl, aminocarbonyl, aminocarbonylalkyl, alkylaminocarbonyl, N-arylaminocarbonyl, N-alkyl-N-arylaminocarbonyl, alkylaminocarbonylalkyl, carboxyalkyl, alkylamino, N-arylamino, N-aralkylamino, N-alkyl-N-aralkylamino, N-alkyl-N-arylamino, aminoalkyl, alkylaminoalkyl, N-arylaminoalkyl, N-aralkylaminoalkyl, N-alkyl-N-aralkylaminoalkyl, N-alkyl-N-arylaminoalkyl, aryloxy, aralkoxy, arylthio, aralkylthio, alkylsulfinyl, alkylsulfonyl, aminosulfonyl, alkylaminosulfonyl, N-arylaminosulfonyl, arylsulfonyl and N-alkyl-N-arylaminosulfonyl groups, R^2 being optionally substituted at a substitutable position with one or more radicals selected from alkyl, haloalkyl, cyano, carboxyl, alkoxycarbonyl, hydroxyl, hydroxyalkyl, haloalkoxy, amino, alkylamino, arylamino, nitro, alkoxyalkyl, alkylsulfinyl, halo, alkoxy and alkylthio groups; and

R^3 is selected from hydrido and halo radicals.

3. The composition of Claim 2 wherein, in the formula for the selective COX-2 inhibitory sulfonamide drug, A is a pyrazole or isoxazole ring.

4. The composition of Claim 1 wherein the selective COX-2 inhibitory sulfonamide drug is selected from the group consisting of celecoxib, deracoxib and valdecoxib.

5. The composition of Claim 1 wherein the selective COX-2 inhibitory sulfonamide drug is valdecoxib.

6. The composition of Claim 1 wherein the solvent system comprises N-methyl-2-pyrrolidone.

7. The composition of Claim 1 wherein the coating further comprises one or more skin permeation enhancers.

8. The composition of Claim 1 that further comprises a peelable release liner that, prior to application to the skin, is adjacent to the layer that contains the adhesive.

9. The composition of Claim 1 wherein the coating comprises a layer having the active

agent dispersed in a lipophilic matrix that comprises the adhesive and the solvent system.

10. The composition of Claim 9 wherein the coating comprises about 0.1% to about 10% by weight of the active agent and about 0.5% to about 10% by weight of the solvent system.

11. The composition of Claim 10 wherein the coating further comprises one or more crystallization inhibitors in a total amount up to about 30% by weight.

12. The composition of Claim 10 wherein the coating further comprises one or more skin permeation enhancers in a total amount up to about 20% by weight.

13. The composition of Claim 9 wherein the adhesive comprises about 10% to about 30% by weight of a styrene-isoprene-styrene block copolymer, about 20% to about 60% by weight of a tackifier resin, about 5% to about 20% by weight of a liquid rubber, about 10% to about 50% by weight of a softening agent and about 0.1% to about 5% by weight of an antioxidant.

14. The composition of Claim 9 wherein the coating comprises

valdecoxib, 0.2–7% by weight;
N-methyl-2-pyrrolidone, 1–20% by weight;
crotamiton, 0–10% by weight;
polyvinylpyrrolidone, 0–20% by weight; and
oleic acid, 0–10% by weight;

in an adhesive matrix comprising a styrene-isoprene-styrene block copolymer, a tackifier resin, a liquid rubber, a softening agent and an antioxidant.

15. The composition of Claim 14 wherein the coating comprises

valdecoxib, 0.5–5% by weight;
N-methyl-2-pyrrolidone, 2–10% by weight;
crotamiton, 0–5% by weight;
polyvinylpyrrolidone, 1–10% by weight; and
oleic acid, 0.5–5% by weight;

in said adhesive matrix.

16. The composition of Claim 1 wherein the coating comprises a reservoir layer, adjacent to the backing sheet, wherein the active agent is dispersed in a hydrophilic

matrix.

17. The composition of Claim 16 wherein the reservoir layer further comprises the adhesive.

18. The composition of Claim 16 wherein said reservoir layer is in a form of an aqueous gel.

19. The composition of Claim 18 wherein the aqueous gel comprises about 0.1% to about 2% by weight of the active agent, about 0.5% to about 10% by weight of the solvent system and about 1% to about 20% by weight of the adhesive.

20. The composition of Claim 19 wherein the aqueous gel further comprises one or more thickeners in a total amount up to about 10% by weight.

21. The composition of Claim 19 wherein the aqueous gel further comprises one or more humectants in a total amount up to about 60% by weight.

22. The composition of Claim 19 wherein the aqueous gel further comprises one or more skin permeation enhancers in a total amount up to about 20% by weight.

23. The composition of Claim 19 wherein the aqueous gel further comprises one or more preservatives in a total amount up to about 1% by weight.

24. The composition of Claim 18 wherein the aqueous gel comprises

valdecoxib, 0.2–1.5% by weight;
N-methyl-2-pyrrolidone, 1–15% by weight;
crotamiton, 0.2–10% by weight;
oleic acid, 0–10% by weight;
polyacrylate adhesive, 1–10% by weight as solids;
organic acid, 0–5% by weight;
glycerol, 5–50% by weight;
sodium polyacrylate, 0–15% by weight;
carmellose sodium, 0–15% by weight;
hydroxypropylcellulose, 0 – 10% by weight;
polyvalent salt, 0–2% by weight;
disodium edetate, 0–1% by weight;
propylene glycol, 0–30% by weight;
paraben, 0–1% by weight;

castor oil, 0–5% by weight;
surfactant, 0–5% by weight;
urea, 0–10% by weight;
menthol, 0–5% by weight; and
water and other optional ingredients, balance to 100% by weight.

25. The composition of Claim 18 wherein the aqueous gel comprises
valdecoxib, 0.3–1% by weight;
N-methyl-2-pyrrolidone, 2–10% by weight;
crotamiton, 0.5–5% by weight;
oleic acid, 0.5–5% by weight;
polyacrylate adhesive, 1.5–7% by weight as solids;
organic acid, 0–2% by weight;
glycerol, 10–40% by weight;
sodium polyacrylate, 0–8% by weight;
carmellose sodium, 0–8% by weight;
hydroxypropylcellulose, 0 – 6% by weight;
polyvalent salt, 0–1% by weight;
disodium edetate, 0–0.5% by weight;
propylene glycol, 0–20% by weight;
paraben, 0.05–0.5% by weight;
castor oil, 0–2% by weight;
surfactant, 0–2% by weight;
urea, 0–5% by weight;
menthol, 0–2% by weight; and
water and other optional ingredients, balance to 100% by weight.

26. A method of local treatment of a site of pain and/or inflammation in a subject, the method comprising a step of applying to a skin surface of the subject a pharmaceutical composition that comprises a backing sheet that is flexibly conformable to the skin surface, said backing sheet having opposing surfaces that are respectively distal and proximal to the skin when applied, and a coating on the proximal surface of the backing sheet, said coating comprising (a) an adhesive, (b) an active agent comprising a selective COX-2 inhibitory sulfonamide drug of low

water solubility, and (c) a solvent system for the active agent, wherein the active agent is in a therapeutically effective total amount and the solvent system is selected with regard to composition and amount thereof to be effective to maintain the active agent substantially completely in solubilized form; and a step of leaving the composition in place for a time period effective to permit delivery of a locally therapeutic amount of the active agent.

27. A method of systemic treatment of a subject having a COX-2 mediated disorder, the method comprising a step of applying to a skin surface of the subject a pharmaceutical composition that comprises a backing sheet that is flexibly conformable to the skin surface, said backing sheet having opposing surfaces that are respectively distal and proximal to the skin when applied, and a coating on the proximal surface of the backing sheet, said coating comprising (a) an adhesive, (b) an active agent comprising a selective COX-2 inhibitory sulfonamide drug of low water solubility, and (c) a solvent system for the active agent, wherein the active agent is in a therapeutically effective total amount and the solvent system is selected with regard to composition and amount thereof to be effective to maintain the active agent substantially completely in solubilized form; and a step of leaving the composition in place for a time period effective to permit transdermal delivery of a therapeutic amount of the active agent.